

REMARKS

The March 17, 2005 Official Action in the above-identified application has been carefully considered and this amendment has been presented to place this application in condition for allowance. Accordingly, reconsideration and re-examination of this application are respectfully requested.

By this amendment, claim 1 has been amended. Claims 1 and 2 remain pending in this application.

Section 2 of the Office Action rejected claim 1 under 35 U.S.C. §102(b) as allegedly being anticipated by Hayashi *et al.* (US 2001/0029867 and EP 11 142 965). It is respectfully submitted that Hayashi *et al.* describes only the use of mono-functional monomers in addition to the hexa-functional monomer. In contrast, the present invention requires the presence of a di-functional monomer in the ink-jet ink composition. The amendment herein has clarified the markush group from which the photo-polymerizable monomer other than the hexa-functional monomer is selected by setting the elements of the markush group apart in a numbered list. Each of the elements of the markush group specifically require the presence of a bi-functional monomer, which is not taught or suggested by Hayashi *et al.* As Hayashi *et al.* therefore does not teach all of the elements of the pending claims, the rejection of Hayashi *et al.* is not proper and should be withdrawn. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b) over Hayashi *et al.* is respectfully requested.

Section 3 of the Office Action rejected claim 1 under 35 U.S.C. §102(b) as allegedly being anticipated by JP 3-058955. Applicants respectfully submit that the ink composition disclosed in Japanese Patent Publication No. 03-58955 contains 15 parts of hexaacrylate, which is a hexa-functional monomer, and 40 parts of polyester acrylate. However, this reference does not disclose that a bi-functional monomer is a necessary component in the ink-jet ink composition. Furthermore, although the embodiment of this reference cited by the Examiner does not contain a solvent, the reference states that a solvent may be included in the compositions described therein. In contrast, the ink-jet ink composition of the present application does not contain solvent and in fact requires that the ink-jet ink composition be “substantially free of solvent”. Accordingly, the ink-jet ink composition of the present invention is of a fundamentally different composition than that which is described in JP 3-058955, and is

therefore not anticipated by the reference. Reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b) over JP 3-058955 is therefore respectfully requested.

Section 4 of the Office Action rejected claims 1-2 under 35 U.S.C. §102(e) as allegedly being anticipated by Kondo (2003/0149130). Enclosed herewith is a verified English translation of Japanese Patent Application 2002-353945, which was filed December 5, 2002, prior to the December 17, 2002 filing date of Kondo, and to which the present application claims priority. The filing of the verified English translation demonstrates that the subject matter of the present invention has a date of invention of at least December 5, 2002. Accordingly, Kondo is not available as a reference under 35 U.S.C. §102(e) against the present application. Therefore, reconsideration and withdrawal of the rejection under 35 U.S.C. §102(e) is respectfully requested.

Section 6 of the Office Action rejected claims 1-2 under 35 U.S.C. §103(a) as allegedly being unpatentable over Hayashi et al. (US 2001/0029867 and EP 11 142 965). The present invention requires that the photo-polymerizable monomers of the photo-polymerizable ink jet ink composition contain a hexa-functional monomer at 10% to 30% by weight. The other photo-polymerizable monomer is selected from the group consisting of: a bi-functional monomer; a combination of a bi-functional monomer and a mono-functional monomer; a combination of a bi-functional monomer and a tri-functional monomer; and a combination of a bi-functional monomer, a mono-functional monomer, and a tri-functional monomer. In contrast, and as described above, the ink composition disclosed in Hayashi *et al.* contains only mono-functional monomers in addition to the hexa-functional monomer. Therefore, the composition of the ink disclosed in Hayashi *et al.* and the composition of the ink recited in claim 1 are different.

In the specification of the present application, an ink containing a hexa-functional monomer at 15% by weight and a mono-functional monomer at 73% by weight is described as Comparative Example 10. This composition is substantially the same as that disclosed in Hayashi *et al.* However, the surface of this ink remains uncured even after being irradiated with a UV lamp. This indicates that when the photo-polmerizable monomers are a combination of only a hexa-functional monomer and a mono-functional monomer, sufficient cross linking density cannot be obtained, and that the film strength during curing is weak. In the invention of the present application, a bi-functional monomer is a required component in addition to the hexa-functional monomer, and the addition of the bi-functional monomer remedies the deficiencies of

inks manufactured as shown in Comparative Example 10. Hayashi *et al.* do not disclose nor suggest the necessity of including a bi-functional monomer as a photo-polymerizable monomer. As the presence of a bi-functional monomer is a requirement of the presently pending claims, and as Hayahi *et al.* do not describe the use of such a bi-functional monomer or even suggest that such a bi-functional monomer would be useful in developing ink-jet ink compositions, Hayashi *et al.* does not render obvious the pending claims. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) over Hayashi *et al.* is respectfully requested.

For all of the foregoing reasons, it is believed that applicants' claimed invention as recited in claims 1 and 2 is not anticipated by or rendered obvious by any of the references cited in the Office Action. Accordingly, it is believed that the Examiner's rejection of claims 1 and 2 based upon 35 U.S.C. §§ 102 and 103 have been overcome by the present amendment and remarks and withdrawal thereof is respectfully requested.

Applicants respectfully submit that the application as now pending is in condition for allowance.

Statements appearing above with respect to the respective references represent the present opinions of the undersigned attorneys. Should the Examiner disagree with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the references providing a basis for a contrary view.

A Notice of Allowance is earnestly solicited.

Respectfully submitted,
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